

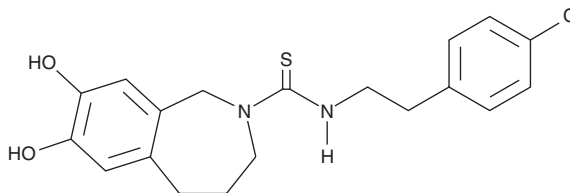
Product Information



Capsazepine

Catalog No. 10007518

CAS No.: 138977-28-3
Formal Name: N-[2-(4-chlorophenyl)ethyl]-1,3,4,5-tetrahydro-7,8-dihydroxy-2H-2-benzazepine-2-carbothioamide
MF: C₁₉H₂₁ClN₂O₂S
FW: 376.9
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

For long term storage, we suggest that capsazepine be stored as supplied at -20°C. It will be stable for at least two years.

Capsazepine is supplied as a crystalline solid. A stock solution may be made by dissolving the capsazepine in an organic solvent purged with an inert gas. Capsazepine is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of capsazepine in these solvents is approximately 20 mg/ml.

Capsazepine is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, capsazepine should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Capsazepine has a solubility of approximately 0.45 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Transient receptor potential vanilloid type 1 (TRPV₁) is a member of the transient receptor potential (TRP) family that is activated or sensitized by a variety of endogenous stimuli as a result of tissue injury and inflammation. TRPV₁ is upregulated during inflammation and plays a role in the perception of pain.^{1,2} Capsazepine is a competitive antagonist of TRPV₁ which blocks the capsaicin-induced uptake of Ca²⁺ in neonatal rat dorsal root ganglia with an IC₅₀ of 0.42 μM and Chinese hamster ovary cells with an IC₅₀ of 17 nM.^{1,3} It does not block acid- or heat-induced activation of TRPV₁ and may block receptors other than TRPV₁.^{4,5}

References

1. Doherty, E.M., Fotsch, C., Bo, Y., *et al.* Discovery of potent, orally available vanilloid receptor-1 antagonists. Structure-activity relationship of N-aryl cinnamides. *J. Med. Chem.* **48**, 71-90 (2005).
2. Walker, KM., Urban, L., Medhurst, S.J., *et al.* The VR₁ antagonist capsazepine reverses mechanical hyperalgesia in models of inflammatory and neuropathic pain. *J. Pharmacol. Exp. Ther.* **304**(1), 56-60 (2003).
3. Walpole, S.J., Bevan, S., Bovermann, G., *et al.* The discovery of capsazepine, the first competitive antagonist of the sensory neuron excitants capsaicin and resiniferatoxin. *J. Med. Chem.* **37**, 1942-1954 (1994).
4. Liu, L. and Simon, S.A. Capsazepine, a vanilloid receptor antagonist, inhibits nicotinic acetylcholine receptors in rat trigeminal ganglia. *Neurosci. Lett.* **228**, 29-32 (1997).
5. Docherty, R.J., Yeats, J.C., and Piper, A.S. Capsazepine block of voltage-activated calcium channels in adult rat dorsal root ganglion neurones in culture. *Br. J. Pharmacol.* **121**, 1461-1467 (1997).

Related Products

N-Oleoyl Dopamine - Cat. No. 10115 • Arvanil - Cat. No. 90052 • Olvanil - Cat. No. 90262 • Capsaicin - Cat. No. 92350 • Dihydrocapsaicin - Cat. No. 92355 • CAY10448 - Cat. No. 10005633

WARNING: THIS PRODUCT IS NOT INTENDED OR APPROVED FOR HUMAN OR VETERINARY USE. USE OF THIS PRODUCT FOR HUMAN OR ANIMAL TESTING IS EXTREMELY HAZARDOUS AND MAY RESULT IN DISEASE, SEVERE INJURY, OR DEATH.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent under separate cover to the MSDS supervisor at your institution.

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